INDEX

SOVIET APPLIED MECHANICS

Volume 7, Numbers 1-12, 1971

SOVIET APPLIED MECHANICS
Volume 7, Numbers 1-12, 1971
(A translation of Prikladnaya Mekhanika)

A

Afendik, L. G.–926
Ageev, Yu. A.–554
Akhmedov, F. A.–129, 933
Akeksandrov, V. M.–364
Alekseev, V. M.–1126
Alekseeva, M. K.–488
Al'pert, V. N.–60
Amiro, I. Ya.–838
Andreev, L. V.–24
Andreikiv, A. E.–949
Anikev, I. I.–1027
Antipov, V. A.–508
Asaturyan, A. Sh.–659
Aslanov, S. K.–194

B

Babenko, V. I.–717
Babich, I. Ya.–483
Babyak, V. S.–1089
Baranenko, V. A.–106
Barchenkov, A. G.–310
Batsinov, Ts. D.–1167
Bazhenov, V. A.–163
Belokurov, V. N.–339
Berkina, S. N.–349
Bespalova, E. I.–975
Birger, B. I.–290
Blokhin, L. N.–1130
Boichuk, O. F.–1004
Bolonkin, A. A.–639
Bondarenko, V. A.–1333
Bozhko, A. E.–549
Bozhko, N. S.–785
Budz, S. F.–1098
Buivol, V. N.–34, 804
Burak, Ya. I.–55, 1098
Buryak, V. G.–364
Buryshkin, M. L.–899
Butakova, L. G.–179

C

Chernukha, Yu. A.–228
Chernyakova, N. P.–926
Chernyi, G. I.–912
Chernyshenko, I. S.–964, 1084
Chernyshov, A. D.–99
Chigarev, V. N.–1160
Chudin, V. N.–1034

D

Daich, I. M.–740
Danil'chenko, K. P.–532, 1044
Dekhtyar', A. S.–1114
Denishenko, G. L.–690
De Pater, A. D.–472
Dokuchaev, L. V.–419
Dolinskaya, M. M.–1394
Dotsenko, P. D.–304
Dubinskii, A. M.–388
Dudukalenko, V. V.–908
D'yachenko, V. E.–24
Dyachina, A. P.–125
Dykhta, L. M.–297

E

Echina, N. M.–748
Egorov, S. N.–1373
Emel'yanov, R. F.–645
Erzhanov, Zh. S.–633

F

Fabrikant, V. I.–264
Fel'dman, E. B.–1382
Filippov, A. P.–278, 916, 1074
Filippov, I. G.–1136
Fil'shtinskii, L. A.–894
Fleishman, N. P.–1403
Fishgal, S. I.–1076
Fradlin, B. N.–231, 1177

G

Galapats, B. P.–55
Galushchak, O. V.–628
Ganiev, R. F.–665
Garanchuk, V. A.–512
Gavelya, S. P.–1080
Gavilenko, G. D.–1110
Geogdzhaev, V. O.–1382
Gerasimov, V. I.–792
Ginesina, E. M.–287
Girol', A. P.–316
Gladkova, V. I.–568
Goloborod'ko, S. A.–875
Goloskolov, E. G.–654
Golovchan, V. T.–268
Goncharyuk, I. V.–764
Gorb, M. L.–109
Gorbatyuk, V. T.–954
Goroshko, O. A.–452
Gots, A. N.–622
Grabko, G. K.–332
Grebnev, L. V.–1153
Grigoluk, E. I.–705
Grigorenko, Yu. M.–833
Grigor'ev, E. T.–690
Grinchenko, V. T.–783
Grinev, V. B.–1074
Grobov, V. A.–7, 734
Gromov, V. G.–1364
Gronskii, V. I.–690
Gruzdev, A. K.–184
Gruzkov, L. A.–1021
Guba, V. M.–512
Gubenko, V. S.–90, 332
Gudramovich, V. S.–959
Gushcha, O. I.–676, 1305
Guz', A. N.–130, 676, 1305

I

Il'gamov, M. A.–1317
Il'man, V. M.–602
Ishchenko, I. I.–239
Ishlinskii, A. Yu.–940
Ismalov, R. R.–760, 1126
Ivanov, V. A.–1317
Ivanov, Yu. P.–577

K

Kachan, Yu. G.–1390
Kalker, J. J.–472
Kaloerov, S. A.–44
Kaminskii, A. A.–941, 1386
Karmishin, A. V.–1053
Karnaukov, V. G.–1293
Kas'yanyuk, S. A.–985
Kats, V. E.–894

Kayuk, Ya. F.–488, 883
Khitrov, V. N.–442
Khoma, I. Yu.–240
Khoroshilov, V. S.–419
Kichaev, Yu. P.–256
Kichigin, V. G.–49
Kil'chevskii, N. A.–1, 672
Kil'dibekov, I. G.–1360
Kireeva, G. B.–923
Kolesnik, I. A.–527
Kolgadin, V. A.–287
Kolosova, S. V.–1143
Kolybikhin, Yu. D.–1311
Konashenko, S. I.–997
Kondaurov, V. I.–1382
Kononenko, V. O.–583, 1027, 1061
Korobkov, V. A.–1021
Koryagin, V. P.–498
Kosheleva, T. I.–370
Kosmodamianskii, A. S.–44, 272, 400
Kotsyuba, A. V.–734
Kotukov, A. N.–310
Kovalenko, A. D.–1293
Koval'chuk, P. S.–583, 1061
Kovtun, A. V.–218, 516
Kozin, R. G.–19
Kravets, V. V.–342
Kritsuk, A. A.–645
Kryutchenko, V. E.–649
Kubenko, V. D.–523, 1170
Kucherenko, V. P.–82, 457
Kuliev, G. G.–450, 796
Kuyun, A. I.–425
Kuzenko, Yu. V.–345
Kuz'ma, V. M.–452

L

Latsinnik, I. F.–975
Lazaryan, V. A.–649, 997
Lebedev, V. K.–676, 1305
Leonov, E. V.–574
Likhoded, A. I.–617
Likhovid, P. I.–1058
Litvin, O. N.–494
Livshits, P. Z.–711
Lobas, L. G.–432
Loshchinin, V. F.–260
Lozinskaya, L. A.–812
Lozinskii, V. N.–400
Lugovoi, P. Z.–168, 564
Lukash, A. G.–665
Lukashev, A. A.–2600
Lun', E. I.–1163
Lyalin, V. M.–590
Lysko, E. M.–260

M

Madatov, G. L.–342
Makar, G. S.–394
Makarenkov, A. G.–1089
Makhort, F. G.–144, 676, 1305
Maksimov, S. P.–281
Malinin, A. A.–617
Malinovskaya, I. A.–425
Mal'tsev, R. I.–310
Man'kovskii, V. A.–13
Markelov, G. I.–1317
Mart'yanov, A. P,–77
Martynyuk, A. A.–991
Maryuta, A. N.–1390
Meglinskii, V. V.–788
Melenevskaya, E. S.–708
Mikhalyuk, A. V.–912
Mitsyuk, A. A.–1360
Mossakovskii, V. I.–554
Myachenkov, V. I.–370, 607, 920, 1053

N

Naimark, B. M.–633
Nakashidze, G. M.–90, 332
Naumkin, O. V.–222
Nazarov, G. I.–454
Nemish, V. N.–1325
Nemish, Yu. N.–595, 937, 940, 1328
Nerubailo, B. V.–571
Neskorodev, N. M.–272
Netrebskii, M. A.–1037
Nikolaev, A. P.–66
Nikolaichuk, I. N.–690
Novitskii, V. V.–1373

O

Ol'shanskiii, V. P.–278
Onishchenko, S. M.–1345
Ostrovskii, A. A.–109
Ovcharova, D. K –654
Ozerov, V. I.–558, 800

P

Palamarchuk, V. G.–838
Pal'mov, V. A.–281
Panasyuk, V. V.–368
Panasyuk, Yu. A.–645
Pankratova, N. D.–722
Parshin, V. V.–494
Pastukhov, A. S.–574
Patushikin, V. N.–246
Pavlina, V. S.–1300
Pavlovskii, M. A.–438
Pavlovskii, V. E.–339
Pavlyuk, N. F.–256
Pelekh, B. L.–117, 1402
Petrenko, M. P.–728
Pikovskii, V. A.–574
Plakhtienko, N. P.–769
Plakhotnyi, P. I.–561
Pochtman, Yu. M.–106
Podgornyi, A. N.–494
Podil'chuk, Yu. N.–87, 358, 864
Podstrigach, Ya. S.–125, 394, 1300
Podvintsev, Yu. V.–904
Polyakov, P. S.–838
Postol'nik, Yu. S.–512
Potelezhko, V. P.–335
Pozdeev, A. A.–1398
Privarnikov, A. K.–602
Privovar-Trofimchuk, S. S.–1
Prusakov, A. P.–233
Pudoveev, A. P.–693
Putyata, T. V.–231, 1177

R

Radchenko, G. D.–322
Raetskii, G. N.–1364
Raevskii, G. V.–1037
Rasskazov, A. O.–1114
Repin, A. A.–607
Reut, V. I.–349
Reva, T. L.–460
Romalis, N. B.–908
Roze, A. V.–544
Rozovskii, M. I.–13
Rubtsov, B. G.–508
Ruchitskii, Ya. Ya.–808
Rushchitskii, Ya. Ya.–670
Ryabakova, R. I.–875
Ryachev, V. L.–764
Rybakova, R. I.–875

S

Sabodash, P. F.–406
Saburdo, G. A.–581
Safronov, V. S.–310
Sagidaev, Yu. M.–1037
Saksonov, S. G.–103
Saprykina, L. T.–49
Saran, L. A.–659
Savin, G. N.–87, 117, 231, 240, 358, 670, 808, 864, 937, 941, 1175, 1402, 1403
Selezova, L. V.–467
Semenyuk, N. P.–969
Shablii, O. N.–150, 380
Shablii, P. F.–920
Shakirov, N. V.–1398

Shal'da, L. M.–672
Shapovalov, V. N.–1041
Sharapov, G. V.–388
Shashkin, V. V.–574
Shevchenko, K. N.–19
Shevchenko, V. P.–612
Shikhiev, F. M.–754
Shnerenko, K. I.–250, 1105
Shumyanskii, I. F.–1011
Shvets, R. N.–1163, 1300
Sivenyuk, V. V.–930
Skorodumov, B. A.–1030
Skripachev, V. V.–1394
Skripnik, V. P.–1080
Sladkov, S. I.–199
Smelyanskaya, L. M.–1119
Smelyi, G. N.–554
Solyanik-Krassa, K. V.–857
Stepanenko, A. S.–1110
Stepanov, V. A.–297
Stezhko, A. V.–744
Strel'bitskaya, A. I.–875, 1148, 1351
Strokolaitis, R. N.–870
Sultanov, I. S.–227, 447
Sussi, I. R.–70

T

Taras'ev, G. S.–137, 682
Tarasova, L. A.–812
Teplyi, M. I.–358
Terrovere, V. R.–503, 853
Titarenko, I. G.–680
Tkachuk, G. I.–985
Tochilin, E. L.–1156
Tokar', A. S.–1119
Tolkachev, V. M.–705
Tolokonnikov, L. A.–447, 590, 923, 1034
Troyanovskii, I. E.–538
Tsurpal, I. A.–450
Tul'chii, V. I.–49

U

Uflyand, Ya. S.–208
Ulitko, A. F.–979
Ushkalov, V. F.–1378

V

Vaieev, K. G.–760
Valikov, K. V.–622
Varava, V. I.–326
Varvak, A. P.–30
Varvak, M. Sh.–889
Varvak, P. M.–889
Vasilenko, A. T.–833
Vasil'evskii, Yu. I.–1011
Vekovishcheva, I. A.–1049
Veksler, Yu. A.–633
Veremeenko, S. V.–260
Vinogradov, A. I.–1069
Vladimirov, S. A.–744
Vlasov, V. V.–848
Volk, S. I.–843
Volkov, A. N.–1093
Vol'mer, A. S.–467
Vorotnikova, M. I.–1027
Vovk, A. A.–190
Vovk, I. V.–783
Vozhevskaya, S. M.–260
Vul'man, P. M.–775

Y

Yablonskii, B. V.–225
Yakovlev, P. I.–754
Yakovlev, S. P.–590, 1034
Yakupov, R. G.–174
Yanko, A. K.–454
Yanyutin, E. G.–916
Yarema, P. F.–1325
Yurchenko, T. A.–49

Z

Zaika, P. M.–775
Zakrzhevskii, A. E.–218
Zalesski, V. K.–211
Zapol'skii, N. N.–203
Zarutskii, V. A.–158
Zhgenti, V. S.–1339
Zhilyakov, Ya. G.–686
Zhurba, A. P.–864
Zolotenko, G. F.–1345
Zorii, L. M.–228
Zyuzin, V. A.–554

SOVIET APPLIED MECHANICS
Volume 7, Numbers 1-12, 1971
(A translation of Prikladnaya Mekhanika)

Volume 7, Number 1 January, 1971

	Eng./Russ.	
On the Dynamic Deformation Theory of Cylindrical Shells – N. A. Kil'chevskii and S. S. Pivovar-Trofimchuk	1	3
The Theory of Passive Systems for the Damping of Wobbles of Orbital Objects, Stabilized by Rotation – V. A. Grobov	7	10
General Method of Comparing Hereditary Functions of Influence and Determining Their Parameters – V. A. Man'kovskii and M. I. Rozovskii	13	18
Stress State of a Thick Spherical Shell Enclosing a Heat-Releasing Sphere – R. G. Kozin and K. N. Shevchenko	19	25
Influence of an Elastic Base with Unilateral Coupling on the Stability of a Cylindrical Shell – L. V. Andreev and V. E. D'yachenko	24	31
Calculation of Hollow Ribbed Shells in Double Trigonometric Series – A. P. Varvak	30	38
Cylindrical Shell of Finite Length in a Fluid Flow – V. N. Buivol	34	43
Determination of Strains and Stresses in a Shell Reinforced with Ribs in Two Directions – V. N. Khitrov	39	49
Elastic Equilibrium of the Weight Anisotropy of a Half-Plane with an Elliptical Opening – S. A. Kaloerov and A. S. Kosmodamianskii	44	55
On the Equilibrium of a Plate with Arbitrarily Located Reinforced Circular Holes – V. I. Tul'chii, V. G. Kichigin, L. T. Saprykina, and T. A. Yurchenko	49	61
Electroelasticity Equations for Thin Electrically Conducting Flat Plates – Ya. I. Burak and B. P. Galapats	55	68
Certain Cases of the Limiting Equilibrium of a Plate with an Arbitrary Boundary in Plan View – V. N. Al'pert	60	75
Stability of Elasto-Plastic Rectangular Plates with Material Compressibility Taken into Account – A. P. Nikolaev	66	82
Vibrations of a Horizontal Shaft on Anisotropic Elasto-Damper Supports – I. R. Sussi	70	87
On Equilibrium Modes in the Three-Dimensional Buckling of Rods – A. P. Mart'yanov	77	95
Disintegration of a Jet of Viscous Liquid in Multijet Systems – V. P. Kucherenko	82	101
BRIEF COMMUNICATIONS		
Stress Distortion Coefficient for a Transducer Shaped as a Prolate Ellipsoid of Revolution – G. N. Savin and Yu. N. Podil'chuk	87	107
The Determination of the Sag in the Exterior of an Annular Punch Coupled with an Elastic Half-Space – V. S. Gubenko and G. M. Nakashidze	90	110
On the Bending of a Plate with Reinforced Quadrangular Holes – E. V. Markovskaya	94	115
Motion of a Viscoplastic Medium in a Dihedral Corner – A. D. Chernyshov	99	120
Wave Propagation in a Cylindrical Shell – S. G. Saksonov	103	124
Dynamic Programming Solution of Nonlinear Boundary-Value Problems in the Theory of Flexiable Beams – V A. Baranenko and Yu. M. Pochtman	106	128
On the Possible Occurrence of Slippage Zones in Sheet Metal – A. A. Ostrovskii and M. L. Gorb	109	132
CHRONICLE		
Eleventh Scientific Meeting on Thermal Stresses in Structural Elements – Yu. N. Shevchenko		136

Volume 7, Number 2 February, 1971

Stress Concentration near Holes in Plates and Shells, Taking Account of the Phenomena Caused by Transverse Shear Strains – G. N. Savin and B. L. Pelekh 117 3

Particular Solutions to the Quasistatic Problem of Global Viscoelasticity – A. P. Dyachina and Ya. S. Podstrigach 125 12

Bifurcation of the Equilibrium of a Three-Dimensional Elastic Body with a Finite Homogeneous Deformation – A. N. Guz' 130 18

Equations of the Nonlinear Theory of Elasticity in Terms of Displacements – G. S. Taras'ev 137 26

Theory of the Propagation of Surface Waves in an Elastic Body with Initial Deformation – F. G. Makhort 144 34

Stress–Strain State of Shells of Rotation Made of a Rigid–Viscous–Plastic Material Capable of Undergoing Hardening – O. N. Shablii 150 41

An Approximate Method for Determining the Stress–Strain State of Ribbed Cylindrical Shells – V. A. Zarutskii 158 51

Approximate Equations of the Theory of Circular Closed Cylindrical Shells in an Elastic Medium – V. A. Bazhenov 163 57

Stress Concentration around a Round Hole in a Conical Shell – P. Z. Lugovoi 168 63

Oscillations of a Cylindrical Shell Subject to Acoustic Pressure – R. G. Yakupov 174 71

Hypercritical Deformation of Rectangular Orthotropic Plates Braced with Ribs along the Lateral Sides – L. G. Butakova 179 77

Method for Approximate Determination of Limiting Loads for an Axisymmetric Rigidly Plastic Body – A. K. Gruzdev 184 83

Deformation of Tenacious Soils Due to Explosion of Charges Placed at Different Depths – A. A. Vovk 190 89

Theory of Stability of Combustion of Solid Fuel as an Elastic Solid – S. K. Aslanov 194 94

Rod Lattices with Random Parameters – S. I. Sladkov 199 100

Experimental Investigation of Torsion of Thin-Walled Structures of Varying Cross Section – N. N. Zapol'skii 203 105

BRIEF COMMUNICATIONS

Twisting of an Elastic Space which has a Spherical Cutout – Ya. S. Uflyand and E. S. Melenevskaya 208 111

Complex Solution of the One-Dimensional Problem for a Helicoid Shell – V. K. Zalesski 211 114

Oscillations of a Cylindrical Shell under the Action of a Random Loading – A. V. Kovtun 214 117

Investigation of the Dynamics of Composite Shells – A. E. Zakrzhevskii 218 122

Stress Concentration in Different-Modulus Plates – O. V. Naumkin, I. S. Sultanov, and L. A. Tolokonnikov 222 127

Stress State of a Multilayer Construction in the Winding of a Band on a Cylinder – B. V. Yablonskii 225 130

Influence of Support Clamping on the Dynamic Stability of an Elastic Rod – L. M. Zorii and Yu. A. Chernukha 228 134

The One-Hundred-and-Twenty-Fifth Anniversary of the Birth of Viktor L'vovich Kirpichev – G. N. Savin, T. V. Putyata, and B. N. Fradlin 231 137

Volume 7, Number 3 March, 1971

The Nonlinear Bending Equations of Gently Sloping Multilayer Shells – A. P. Prusakov 235 3

On the Theory of Anisotropic Shells which are Free from the Kinematic Hypothesis of a Normal Element – G. N. Savin and I. Yu. Khoma 240 9

	Eng./	Russ.
Free Vibrations of Nonlinearly Elastic Shells – V. N. Pastushikhin	246	16
Influence of Shear Strains on the Stress State of a Spherical Shell Weakened by a Hole – K. I. Shnerenko	250	21
Vibrations of a Shallow Spherical Shell with a Hole – N. F. Pavlyuk and Yu. P. Kichaev	256	28
Propagation of Elastic Waves in a Solid for a Four-Constant Elastic Model of a Continuous Medium – A. A. Lukashev, E. M. Lysko, S. V. Veremeenko, S. M. Vozhevskaya, and V. F. Loshchinin	260	32
On an Asymmetric Mixed Problem for a Transversely Isotropic Half-Space – V. I. Fabrikant	264	36
Diffraction of a Shear Wave around an Infinite Array of Cylindrical Cavities – V. T. Golovchan	268	41
A Doubly Periodic Problem for an Anisotropic Plate with Curvilinear Holes – A. S. Kosmodamianskii and N. M. Neskorodev	272	47
Impact Deformations of an Asymmetrical Three-Layer Sandwich Plate – V. P. Ol'shanskii and A. P. Filippov	278	54
Elastoplastic Deformation of a Perforated Plate – S. P. Maksimov and V. A. Pal'mov	281	58
The Geometrically Nonlinear Problem of the Bending of Orthotropic Plates – V. A. Kolgadin and E. M. Ginesina	287	65
Temperature Stresses in Anisotropic Bodies – B. I. Birger	292	71
On the Solution of a Boundary Value Problem Concerned with the Potential of Forced Waves on a Shallow – V. A. Stepanov and L. M. Dykhta	297	77
Vibrations and Stability of a Straight Pipe – P. D. Dotsenko	304	85
Induced Oscillations of Highway Bridges as a Random Process – A. G. Barchenkov, R. I. Mal'tsev, A. N. Kotukov, and V. S. Safronov	310	92
The Effect of a Transverse Velocity Component on the Parameters of a Semirestricted Jet – A. P. Girol'	316	99
Application of the Müller Method to Photoelasticity – G. D. Radchenko	322	106
Methods of Optimizing Vibration-Proof Systems – V. I. Varava	326	111
The Contact Problem for a Circular Punch and a Half-Space in the Presence of Friction Forces – V. S. Gubenko, G. K. Grabko, and G. M. Nakashidze	332	119
The Pressure of a Rigid Unbounded Cylinder on an Elastic Layer – V. P. Potelezhko	335	122
Effect of the Method of Mounting the Samples on the Correctness of the Results of Fatigue Tests – V. É. Pavlovskii, I. I. Ishchenko, and V. N. Belokurov	339	126
The Motion of a Free Solid Body Carrying a Heavy Pendulum, under the Action of a Following Force – V. V. Kravets and G. L. Madatov	342	129
Nonlinear Bending of Circular Membranes – Yu. V. Kuzenko	345	131
Torsion Calculation of a Thin-Walled Rod Strengthened with Strips, Allowing for the Deformation of the Cross-Sectional Contour – V. I. Reut and S. N. Berkina	349	135

Volume 7, Number 4 April, 1971

Determination of the Contact Stresses for Cylindrical Bodies in Internal Contact – V. V. Panasyuk and M. I. Teplyi	353	3
Elastic Deformation of a Two-Sheeted Hyperboloid of Revolution – G. N. Savin and Yu. N. Podil'chuk	358	9
Dynamic Mixed Problems for Pure Shear Deformation for an Elastic Half-Space – V. M. Aleksandrov and V. G. Buryak	364	16
Stability of Toroidal Sheels with Localized Loadings – T. I. Kosheleva and V. I. Myachenkov	370	23
On Refinement of the Theory of Ultimate Equilibrium of Shells of Revolution – G. I. Bykovtsev, Yu. P. Listrova, and G. A. Murlina	374	28
Rigidly Plastic Behavior of Shells and Plates made of Linearly Reinforced Material – O. N. Shablii	380	35

Engl./Russ.

Carrying Capacity of Shells in the Form of a Hyperbolic Paraboloid – A. M. Dubinskii and G. V. Sharapov 388 44
Dislocation Stresses in an Infinite Plate with Two Circular Holes – Ya. S. Podstrigach and G. S. Makar 394 51
The Thermoelastic Problem for a Round Plate with Regularly Arranged Round Openings into Which Elastic Rings are Soldered – A. S. Kosmodamianskii and V. N. Lozinskii 400 58
Propagation of Linear Viscoelastic Waves in Plates of Finite Thickness – P. F. Sabodash 406 66
Longitudinal Wave Diffraction by an Infinite Row of Circular Holes in an Elastic Plate – V. T. Golovchan 412 74
The Motion of a Body Containing a Liquid with an Elastic Plate at its Surface – L. V. Dokuchaev and V. S. Khoroshilov 419 82
Determination of Elastic and Plastic Deformation by the Thermoelectric Method – I. A. Malinovskaya, A. I. Kuyun, and I. I. Ishchenko 425 89
The Automobile as a Nonholonomic System with Classical Constraints – L. G. Lobas 432 98
The Constant Component of the Signal of Pendulums with Vibrations – M. A. Pavlovskii. 438 105

BRIEF COMMUNICATIONS

Elastic Equilibrium of Ribbed Shells – V. N. Khitrov 442 110
Stress Concentration in a Star-Shaped Body – I. S. Sultanov and L. A. Tolokonnikov 447 115
State of Stress of a Nonlinear Elastic Plate with a Reinforced Circular Hole – G. G. Kuliev and I. A. Tsurpal 450 118
Dynamic Phenomena in an Elastic Bar, Resulting from a Mobile Random Inertialess Load – O. A. Goroshko and V. M. Kuz'ma 452 121
A Solution of the Three-Component Axisymmetrical Flow Problem for a Viscous Incompressible Fluid – G. I. Nazarov and A. K. Yanko 454 123
On a Sufficient Criterion for the High-Frequency Stability of Laminar Combustion in a Cylindrical Tube – V. P. Kucherenko 457 126
Biharmonic Solutions of Problems for Elastoplastic Bodies – T. L. Reva 460 130

ANNIVERSARIES

Yaroslav Ivanovich Grdina (On the one hundredth anniversary of his birth) 463 134

Volume 7, Number 5 May, 1971

Behavior of an Elastic Cylindrical Panel in a Flow of Conducting Gas in a Magnetic Field – A. S. Vol'mer and L. V. Selezova 467 3
Survey of the Theory of Local Slip in the Elastic Contact Region with Dry Friction – J. J. Kalker and A. D. De Pater 472 9
Linearized Problems for an Incompressible Body in the Case of Small Strains – I. Yu. Babich 483 21
Accelerated Convergence in Successive Approximation for Geometrically Nonlinear Problems – Ya. F. Kayuk and M. K. Alekseeva 488 27
Symmetric Deformation of a Cylindrical Shell of Medium Thickness – O. N. Litvin, A. N. Podgornyi and V. V. Parshin 494 34
The Stress State of Homogeneous and Nonhomogeneous Cylinders and Discs with a Central Axial Curvilinear Hole – V. P. Koryagin 498 39
Equivalent Reinforcement of a Spherical Bottom with a Radial Nozzle – V. R. Terrovere 503 45
The Load Carrying Capacity of a Cylindrical Shell Reinforced by a Ring – V. A. Antipov and B. G. Rubtsov 508 50
Approximate Determination of Thermoelastic Stresses in a Cylinder with Symmetric Heating – V. M. Guba, Yu. S. Postol'nik, and V. A. Garanchuk .. 512 55
Forced Vibrations of Cylindrical Shells with Liquid under Random Loads – A. V. Kovtun 516 60

	Engl.	Russ.
The Action of a Nonstationary Spherical Wave on a Thin Membrane Covering an Acoustic Half-Space – V. D. Kubenko	523	68
Vibrations of an Arch System during the Motion of a Group of Loads – I. A. Kolesnik	527	73
The Effect of a Vortical Annulus on a Plate, with Jets Flowing out Perpendicular to a Screen – K. P. Danil'chenko	532	79
Deformation of a Visco-Elastic Half-Plane under the Action of Concentrated Forces at Its Boundary – I. E. Troyanovskii	538	86
Analysis of Refinements of the Euler Critical Stress of an Orthotropic Bar – A. V. Roze	544	93
Optimization of a System of Vibration-Testing Stand – A. E. Bozhko	549	99
BRIEF COMMUNICATIONS		
Investigation of the Stability of a Cylindrical Shell with a Combination Loading – V. I. Mossakovskii, A. V. Zyuzin, G. N. Smelyi, V. I. Konokh, and Yu. A. Ageev	554	105
A Nonlinear Equation Incorporating Creep for an Elastoplastic Medium – V. I. Ozerov	558	109
Propagation of Spherical Stress Waves in an Elastic Medium – P. I. Plakhotnyi	561	112
Torsion of a Conical Shell Weakened by a Not Inconsiderable Circular Hole – P. Z. Lugovoi	564	116
BRIEF COMMUNICATIONS		
Contact Between an Elastic Spherical Shell and a Solid Body with Nonaxisymetric Vibrations – V. I. Gladkova	568	120
A Contact Problem of a Round Cylindrical Shell – B. V. Nerubailo	571	124
Photoelastic Investigation of the State of Stress of Hollow Spheres – E. V. Leonov, A. S. Pastukhov, V. A. Pikovskii, and V. V. Shashkin	574	127
The Lowest Frequency of the Vibrations of a Convex Shell of Rotation – Yu. P. Ivanov	577	131
BOOK REVIEWS		
M. M. Gernet and V. F. Ratobyl'skii – Determination of Moments of Inertia – Reviewed by G. A. Saburdo	581	135

Volume 7, Number 6 June, 1971

The Effect of Parametric Excitation on a Self-Oscillatory System – V. O. Kononenko and P. S. Koval'chuk	583	3
Plastic Flow of Orthotropic Bodies – L. A. Tolokonnikov, S. P. Yakovlev, and V. M. Lyalin	590	11
The Axisymmetric Problem of the Stressed State of Orthotropic Elastic Bodies – Yu. N. Nemish	595	17
The Effect of a System of Punches on an Elastic Multilayer Base – V. M. Il'man and A. K. Privarnikov	602	25
Effect of Boundary Conditions on the Eigenfrequencies of the Vibrations of Cylindrical Shells – V. I. Myachenkov and A. A. Repin	607	31
On the Solution of Static Problems for Shallow Shells under the Action of Local Loads – V. P. Shevchenko	612	37
Vibrations of Cylindrical Shells of Variable Thickness and Rigidity – A. I. Likhoded and A. A. Malinin	617	43
Calculation of the Natural Frequencies of Spherical Shells – K. V. Valikov and A. N. Gots	622	49
The State of Stress around a Circular Hole in Spherical Shells of Variable Thickness – O. V. Galushchak	628	56
The Plane Problem of Creep Theory in the Case of Large Strains – Zh. S. Erzhanov, B. M. Naimark, and Yu. A. Veksler	633	61
Solution Methods for Boundary-Value Problems of Optimal Control Theory – A. A. Bolonkin	639	68

The Effect of the Type of Hardener on the Properties of an Epoxy Bonding Agent — A. A. Kritsuk, R. F. Emel'yanov, and Yu. A. Panasyuk 645 75
Definition of the Frequencies and Shapes of the Natural Transverse Oscillations of a Column with Concentrated Inclusions — V. A. Lazaryan and V. E. Kryutchenko... 649 79
Auto-Oscillations of Coaxial Rotors — D. K. Ovchareva and E. G. Goleskolov 654 85
Unsteady Viscous Fluid Flow in Cylindrical Pipes — A. Sh. Asaturyan and L. A. Saran .. 659 91
On the Stability of Space Vehicles Containing Oscillating Masses — R. F. Ganiev and A. G. Lukash..... 665 97

BRIEF COMMUNICATIONS

On the Solution of the Contact Problem for a Variant of the Nonclassical Theory of Elasticity — G. N. Savin and Ya. Ya. Rushchitskii..... 670 103
On the Theory of the Motion of Systems Consisting of Elastic and Fluid Elements — N. A. Kil'chevskii and L. M. Shal'da..... 672 105
Theory Underlying the Determination of Initial Stresses from the Results of Ultrasonic Measurements — A. N. Guz', F. G. Makhort, O. I. Gushcha, and V. K. Lebedev... 676 110
The Coefficient of Stress Concentration about an Elliptical Hole in a Spherical Shell — I. G. Titarenko..... 680 114
Ultimate Elastic Deformations on a Thin Plate — G. S. Taras'ev..... 682 115
Calculation of Plates with a Stepped Profile, Notches, and Holes by the Straight-Lines Method — Ya. G. Zhilyakov..... 686 120
Response of a System to Random Disturbances with Different Phase Distributions — E. T. Grigor'ev, V. I. Gronskii, I. N. Nikolaichuk, and G. L. Denishenko..... 690 124
A Method of Modelling Jet Flows — A. P. Pudoveev..... 693 128

CHRONICLES

Work of the Seminar on the Sector "The Mechanics of a Solid Deformed Body," Institute of Mechanics of the Academy of Sciences of the Ukrainian SSR, 1970 — A. F. Ulitko, Ya. Ya. Rushchitskii..... 697 133
Work of the Seminar on General Mechanics of the Institute of Mechanics of the Academy of Sciences of the Ukrainian SSR in 1970 — O. P. Protsenko..... 701 136

Volume 7, Number 7 July, 1971

Construction of a Green Matrix for a Shell of Rotation — É. I. Grigoluk and V. M. Tolkachev..... 705 3
State of Stress in an Infinitely Long Hollow Cylinder, Loaded Axisymmetrically by Discontinuous Tangential Forces — P. Z. Livshits 711 10
Asymptotic Analysis of Thermoelastic Supercritical Deformations of Spherical Segments under the Effect of External Pressure — V. I. Babenko..... 717 17
Solution of Problems of the Statics of Multilayer Cylindrical Shells with Variable Parameters over the Directrix — N. D. Pankratova..... 722 23
Joint Vibrations of a Liquid and a Slightly Sloping Spherical Shell — M. P. Petrenko... 728 30
Application of Cayley—Klein Parameters in the Investigation of the Quasi-Precessional Movement of a Free Solid Body — V. A. Grobov and A. V. Kotsyuba 734 37
Nonconservative Problem Concerning the Oscillations of a Solid Body Containing a Cavity Partially Filled with an Ideal Liquid — I. M. Daich 740 44
Vibrations of an Annular Plate Whose Contact Boundary with a Rigid Base Varies — S. A. Vladimirov and A. V. Stezhko..... 744 49
Elastic Equilibrium of a Plate Weakened by a System of Cracks — N. M. Echina and N. V. Pal'tsun 748 54
The Active Pressure of the Ground during Seismic Effects — F. M. Shikhiev and P. I. Yakovlev 754 61
Precession of a Gyroscope with Elastically Coupled Gimbals — K. G. Valeev and R. R. Islamov 760 68

	Engl.	Russ.
Pure Torsion of Prismatic Beams with Multiply Connected Cross Sections — I. V. Goncharyuk and V. L. Rvachev	764	73
Determination of the Response Curves of Self-Excited Vibratory Systems from an Analysis of Forced Vibrations — N. P. Plakhtienko	769	79
Passage through Resonance of a Three-Dimensionally Vibrating Machine Energized from a Limited-Power Source — P. M. Zaika	775	86
BRIEF COMMUNICATIONS		
Solution of Axially Symmetric Elastoplastic Problems for Bodies Made of a Compressible Material — S. A. Vul'man	779	91
On the Eigenvalues of Some Axisymmetric Problems of the Theories of Elasticity and Acoustics — I. V. Vovk and V. T. Grinchenko	783	95
Stability of a Strip in an Elastic Half-Plane — N. S. Bozhko	785	97
Stress — Strain Field in an Anisotropic Elliptical Plate with a Hole and Supported Around the Edge — V. V. Meglinskii	788	100
Stresses in a Revolving Plate of Physically Nonlinear Elastic Material — V. I. Gerasimov	792	103
Effect of Stiffness of Thin Reinforcing Ring on the State of Stress of a Nonlinear Elastic Plate with a Hole — G. G. Kuliev	796	107
Nonlinear Creep of Disks — V. I. Ozerov	800	112
Refined Equations for the Unsteady-State Motion of a Cavity — V. N. Buivol	804	116
CRITICISM AND BIBLIOGRAPHY		
V. Novatskii. The Theory of Elasticity — Reviewed by G. N. Savin and Ya. Ya. Rushchitskii	808	121
CHRONICLES		
Dissertations on Mechanics Defended by Staff Members of the Institutes of the Academy of Sciences of the Ukrainian SSR in 1970 — L. A. Lozinskaya, and L. A. Tarasova	812	124

Volume 7, Number 8 August, 1971

Solution of Problems of Axisymmetric Deformation of Layered Anisotropic Shells of Revolution – Ya. M. Grigorenko and A. T. Vasilenko	833	3
Stability of Cylindrical Shells of Imperfect Shape – I. Ya. Amiro, P. S. Polyakov, and V. G. Palamarchuk	838	9
Cyclically Symmetrical Deformation of Meridionally Finned Shells of Revolution – S. I. Volk	843	16
Investigation of the Stability of Cylindrical Shells with a Hollow Core under Axial Compression – V. V. Vlasov	848	24
Equivalent Reinforcement of a Circular Hole in a Shell of Revolution by Means of a Short Shell – V. R. Terrovere	853	30
Stress Concentration at Shallow Annular Inclusions in the Torsion of a Beam – K. V. Solyanik-Krassa	857	36
The Bending of a Beam with an Elliptic Crack – G. N. Savin, Yu. N. Podil'chuk, and A. P. Zhurba	864	44
Investigation of the Form of the Cross Section of a Tube in Plastic Bending – R. N. Strokolaitis	870	53
Elastic – Plastic Bending of Rectangular Flexible Plates with Different Ratios of Their Sides – A. I. Strel'bitskaya, S. A. Goloborod'ko, and R. I. Rybakova	875	59
Certain Aspects of Geometrically Nonlinear Problems – Ya. F. Kayuk	883	69
The Application of Two Integral Representations of the Derivative in the Theory of Lattices – P. M. Varvak and M. Sh. Varvak	889	77
A Method of Constructing Doubly-Periodic Polyharmonic Functions – V. E. Kats and L. A. Fil'shtinskii	894	83

	Engl.	Russ.
Free Vibrations of Regular Continuous-Beam Systems – M. L. Buryshkin	899	89
The Stability of Vibratory Systems in the Case of Random Parametric Excitation – Yu. V. Podvintsev	904	96
Direction of Propagation of a Longitudinal Shear Crack – V. V. Dudukalenko and N. B. Romalis	908	101
Rheological Characteristics of Compressible Rocks under Dynamic Loading – A. V. Mikhalyuk and G. I. Chernyi	912	106
BRIEF COMMUNICATIONS		
Determination of the Initial Response of a Conical Shell to an Impulse Load – A. P. Filippov and E. G. Yanyutin	916	111
Stability of Spherical Shells with Local Imperfections – V. I. Myachenkov and P. F. Shablii	919	114
Choice of an Analytical Expression for the Stress Potential – L. A. Tolokonnikov and G. B. Kireeva	922	118
Stability of a Flat Bend of a Narrow Band Beyond the Elastic Limit – L. G. Afendik and N. P. Chernyakova	925	121
Damping the Nutations of a Rotating Solid Body by Means of Simple Pendulums – V. V. Sivenyuk	929	126
Analysis of the Problem Concerning Stress Relaxation in Polymers – F. A. Akhmedov	934	129
BOOK REVIEWS		
W. Nowacki. The Theory of Asymmetrical Elasticity – Reviewed by G. N. Savin and Yu. N. Nemish	938	134
A. D. Kovalenko. Fundamentals of Thermoelasticity – Reviewed by A. Yu. Ishlinskii	939	136

Volume 7, Number 9 September, 1971

A Model for the Rupture of Viscoelastic Media – G. N. Savin and A. A. Kaminskii	941	3
Solving Certain Problems of Thermoelasticity with the Aid of Harmonic Functions – A. E. Andreikiv	949	13
The Axisymmetric Contact Problem for a Layered Half-Space – V. T. Gorbatyuk	954	19
Investigation of the Plastic Stability of Cylindrical Shells under Complex Loads – V. S. Gudramovich	959	25
The Stress Distribution in Spherical Shells with a Cylindrical Branch Pipe – I. S. Chernyshenko	964	31
Stability of a Three-Layered Orthotropic Cylindrical Shell under Nonuniform External Pressure – N. P. Semenyuk	969	37
Calculation of Plates of Variable Rigidity – Ya. M. Grigorenko, E. I. Bespalova, and I. F. Latsinnik	975	45
A Dynamic Problem of Elasticity Theory for a Rectangular Prism – V. T. Grinchenko and A. F. Ulitko	979	50
A Class of Extremum Problems of the Mathematical Theory of Elasticity – S. A. Kas'yanyuk and G. I. Tkachuk	985	57
Method of Averaging and Principle of Comparison in the Technical Theory of the Stability of Motion – A. A. Martynyuk	991	64
The Use of Generalized Functions to Investigate Vibrations of Rods Having Piecewise Constant Parameters – V. A. Lazaryan and S. I. Konashenko	997	70
General Procedure for Calculating the Errors in Noncorrective Inertial Systems – O. F. Boichuk	1004	79
Dynamics of an Elastic Column of a Finite Length under Longitudinal Impact Transmitted through a Pad – Yu. I. Vasil'evskii and I. F. Shumlyanskii	1011	87
Approximation of Functions of the Drag and the Flow Rate – S. I. Fishgal	1016	93

	Eng./Russ.	
Base Pressure in the Discharge of an Incompressible Fluid by Central and Peripheral Annular Jets into a Coflow – L. A. Gruzkov and V. A. Korobkov	1021	99
BRIEF COMMUNICATIONS		
Some Experimental Results of the Effect of an Oblique Shock Wave in Water on a Cylindrical Shell – I. I. Anik'ev, M. I. Vorotnikova, and V. O. Kononenko	1027	106
Determining the Natural Frequencies and the Vibration Modes of Multimass Multiply Branched Multistage Elastic Systems – B. A. Skorodumov	1030	109
Extrusion of a Material with Planar Anisotropy – L. A. Tolokonnikov, S. P. Yakovlev, and V. N. Chudin	1034	113
Optimal Prestresses in Multilayer Tubes – M. A. Netrebskii, Yu. M. Sagidaev, and G. V. Raevskii	1037	116
Temperature Stresses in the Neighborhood of Thermally Insulated Square Openings – V. N. Shapovalov	1041	120
The Effect of a Jet on a Circular Wing Near a Solid Surface – K. P. Danil'chenko	1044	124
Variational Principles in the Theory of Electroelasticity – I. A. Vekovishcheva	1049	129
BOOK REVIEWS		
A. N. Guz', I. S. Chernyshenko, and K. I. Shnerenko. Spherical Bottoms, Weakened by Openings – Reviewed by A. V. Karmishin and V. I. Myachenkov	1053	134
ANNIVERSARIES		
Nikolai Ivanovich Muskhelishvili – Founder of the School of the Mathematical Theory of Elasticity	1055	136
CHRONICLES		
The Sixth Meeting on the Basic Problems of the Theory of Machines and Mechanisms, Leningrad, January 12-16, 1971 – P. I. Likhovid	1058	138

Volume 7, Number 10 October, 1971

The Effect of an External Harmonic Force on a Self-Excited Oscillating System with a Variable Parameter – V. O. Kononenko and P. S. Koval'chuk	1061	3
Basic Systems in the Theory of Optimal Design – A. I. Vinogradov	1069	13
Optimum Design of Structures having Predetermined Natural Frequencies – V. B. Grinev and A. P. Filippov	1074	19
Investigation of the Strain State of Thin Shells under Finite Deflections – S. P. Gavelya and V. P. Skripnik	1080	26
Certain Nonlinear Problems of Shells Generated by Rotation of Second-Order Curves – I. S. Chernyshenko	1084	31
The Stress–Strain State Close to a Hole in an Ellipsoidal Shell – A. G. Makarenkov and V. S. Babyak	1089	37
Theory of Thick Shells on the Basis of the Method of Initial Functions – A. N. Volkov	1093	42
Extremal Temperature Fields during Local Heating of Orthotropic Shells of Revolution – Ya. I. Burak and S. F. Budz	1098	48
Stress State of Multilayer Anisotropic Perforated Shells – K. I. Shnerenko	1105	57
Influence of Boundary Conditions and Elastic Characteristics on the Stability of Orthotropic Cylindrical Shells – G. D. Gavrilenko and A. S. Stepanenko	1110	62
Bearing Capacity of a Canopy Composed of Hyperbolic Paraboloids – A. S. Dekhtyar' and A. O. Rasskazov	1114	67
Strength of a Composite Elastic Layer Weakened by a Plane Circular Crack – L. M. Smelyanskaya and A. S. Tokar'	1119	73
Stability of a Physical Pendulum with a Randomly Oscillating Suspension Point – V. M. Alekseev and R. R. Islamov	1126	81
Synthesis of an Optimal Structure of the Vibration Isolation System of a Gyroscope – L. N. Blokhin	1130	85

		Eng./Russ.
Dynamical Theory of Relative Flow of Multicomponent Media – I. G. Filippov	1136	92
Inviscid Fluid Flow around a Cylinder in a Tube – S. V. Kolosova	1143	100
BRIEF COMMUNICATIONS		
Determination of the Plastic Coefficients for Plates Taking Account of Material Hardening – A. I. Strel'bitskaya	1148	106
Study of Plastic Deformations of a Metal Subject to Compound Loading under Conditions of Biaxial Tension – L. V. Grebnev	1153	111
Use of Complex Potentials in Solving Boundary-Value Problems of the Nonlinear Theory of Hereditary Elasticity – E. L. Tochilin	1156	114
Solution of the Problem of the Stressed State of an Infinite Strip with Slits – V. N. Chigarev	1160	118
Some Problems Relating to the Theory of Thermoelasticity of Orthotropic Shells, Allowing for Inertia of Rotation and Transverse Shear – R. N. Shvets and E. I. Lun'	1163	121
Nonlinear Vibrations of a Plate under Simultaneous Static and Vibrational Loading – Ts. D. Batsinov	1167	126
A Transition Function in Problems of Hydroelastic Interaction – V. D. Kubenko	1171	131
BOOK REVIEWS		
S. P. Timoshenko. Stability of Bars, Plates, and Shells – Reviewed by G. N. Savin	1175	135
ANNIVERSARIES		
On the Centenary of the Birth of Petr Vasil'evich Voronets – T. V. Putyata and B. N. Fradlin	1177	137

Volume 7, Number 11 November, 1971

Dynamics of the Fracture of a Cylindrical Panel – V. P. Dergunov and M. A. Koltunov.	1181	3
Adiabatic Motions of Some Oscillatory Systems – R. F. Ganiev and A. G. Lukash	1185	8
Scattering of a Longitudinal Planar Harmonic Elastic Wave at the Boundary of a Statistically Rough Circular Hole – G. N. Savin and B. M. Shuman	1191	15
Free Oscillations of a System of Rods of Variable Cross Section, Placed Parallel and Elastically Coupled – S. I. Konashenko and N. E. Naumenko	1196	21
Causes of Vibration in Systems with Several Degrees of Freedom – N. G. Samarov	1201	28
On the Unbonding of an Elastic Lamination – Yu. A. Naumov and V. D. Nikiforova	1205	33
Stress Distribution in a Cylindrical Shell with an Elliptical Hole – V. N. Chekhov	1211	41
Carrying Capacities of Circular Plates and Smooth Shells with Radial Ribs – N. Z. Suponitskii	1216	47
Theoretical Analysis of Deformation under Two-Stage Loading – K. N. Rusinko and E. I. Blinov	1220	52
Dynamic Programming in Two-Dimensional Problems in the Theory of Elasticity – V. A. Baranenko, V. K. Zhurakova, and L. A. Filimonov	1226	59
Stability of Viscoelastic Microinhomogeneous Plate – V. D. Potapov	1231	65
The Rotational Reinforcement of Plates Losing Stability – I. T. Vokhmyanin and Yu. V. Nemirovskii	1235	70
Stress Concentration around a Curvilinear Hole in a Plate of Viscoelastic Material – N. P. Gavrish	1241	78
Integral Transforms in the Problems of the Theory of Elasticity for a Nonhomogeneous Wedge – G. B. Kolchin and V. V. Lapenko	1246	84
Approximation of Functions of Integral Operators in Hereditary Theories of Elasticity and Aging – A. A. Zevin	1251	90
Optimum Design of a Thin-Webbed Channel Beam under Oblique Bending – F. I. Fraiman	1256	96

		Engl./Russ.
BRIEF COMMUNICATIONS		
Stability of Cylindrical Shells Weakened by Circular Openings beyond the Elastic Limit – V. S. Gavrish, A. P. Shapovalov, N. G. Tamurov, and V. Ya. Tantsura. . . .	1263	105
Calculation of Concentration Coefficients in Torsion – Ya. A. Barg and B. S. Koval'skii	1267	110
Stress Concentration around Holes in a Material in the Case of Creep with a Nonlinear Aftereffect – A. G. Cheberyak.	1271	114
One Mode of Loading of an Infinitely Large Plane Object with an Elliptical Hole – L. A. Vorozhtsov and A. N. Gots	1275	118
Interference Between Self-Excited Near-Harmonic Vibrations and Parametrically Excited Vibrations – P. S. Koval'chuk	1279	123
Solution of Problems of the Theory of Elasticity with the Aid of Chebyshev Approximations – N. F. Babenko and M. I. Reitman	1282	126
Oscillations of a Liquid Partially Filling a Rotating Conical Cavity – V. S. Khoroshilov	1285	130
CHRONICLES		
Third All-Union Conference on Problems of Reliability in Structural Mechanics, Vilnius, May 31-June 2, 1971 – A. A. Kaminskii	1289	135
OBITUARY		
Aleksandr Nikolaevich Golubentsev.	1291	137

Volume 7, Number 12 December, 1971

Dynamical Problems for Reinforced Viscoelastic Cylinders and Spheres – A. D. Kovalenko and V. G. Karnaukhov.	1293	3
The Quasistatic Problem of Thermal Diffusion for Deformed Solid Bodies – Ya. S. Podstrigach, R. N. Shvets, and V. S. Pavlina	1300	11
Validation of the Theory on the Basis of Which Initial Stresses in Polycrystalline Bodies Are Determined by the Ultrasonic Method – A. N. Guz', F. G. Makhort, O. I. Gushcha, and V. K. Lebedev	1305	17
The Contact Problem of the Torsion of a Half-Space due to an Elastic Disk – Yu. D. Kolybikhin	1311	25
Deformation of an Elastic Parallelepiped under the Influence of Its Own Weight – G. I. Markelov, M. A. Il'gamov, and V. A. Ivanov	1317	32
Stress Distribution around Noncanonical Surfaces – Yu. N. Nemish, V. N. Nemish, and P. F. Yarema	1325	41
Contact between a Thin-Walled Spherical Shell and a Rigid Sphere – V. A. Bondarenko	1333	51
A Thin Shallow Shell in the Form of a Paraboloid of Revolution – V. S. Zhgenti	1339	58
On the Theory of Gyro-Horizon Compass with the Shell of the Sensitive Element Correctable in the Azimuth – G. F. Zolotenko and S. M. Onishchenko	1345	65
Work of Flexible Plates beyond the Elastic Limit under Homogeneous Boundary Conditions – A. I. Strel'bitskaya	1351	71
Supporting Power of Reinforced Panels in a Sound Field – I. G. Kil'dibekov and A. A. Mitsyuk.	1360	82
Stability and Post-Critical Regime of a Compressed Viscoelastic Rod – V. G. Gromov and G. N. Raetskii	1364	87
Experimental Determination of the Tangential Stresses in a Bar with Torsion, Using the Moiré Method with Application of the Membrane Analogy – V. V. Novitskii and S. N. Egorov		
Highly Damped Random Vibrations of Complex Mechanical Systems – V. F. Ushkalov.	1378	103
Calculation of the Anisotropy of a Material for a Two-Dimensional Plastic State of Deformation – V. O. Geogdzhaev, V. I. Kondaurov, and E. B. Fel'dman	1382	107
A Study of the Stress Field near Small Radical Cracks Emanating on the Contour of a Hole – A. A. Kaminskii	1386	107

The Resultant Action of a Flow of Material on the Sensing Element of a Pickup for the Particle-Size Composition – A. N. Maryuta and Yu. G. Kachan 1390 116
Laminar Incompressible Boundary Layer on a Heated Plate – M. M. Dolinskaya and V. V. Skripachev 1394 120
Problems in the Flow of a Highly Viscous Fluid – A. A. Pozdeev and N. V. Shakirov . 1398 124
Remark on the Survey Article, "Stress Concentration around Holes in Plates and Shells with Allowance for Effects Induced by Transverse Shear Strains" – G. N. Savin and B. L. Pelekh 1402 128

BOOK REVIEWS
C. I. Bors. Theory of Elasticity of Anisotropic Bodies – Reviewed by G. N. Savin and N. P. Fleishman..... 1403 129

INDEX
Author Index, Volume 7, Numbers 1-12, 1971..... 1407
Tables of Contents, Volume 7, Numbers 1-12, 1971..... 1411